CLAIMS

I claim:

1. A computer implemented method for dynamically transforming and displaying, and optionally entering and updating data from XML data sources, said method comprising the steps of:

   a. reading a plurality of XML formats;

   b. defining a plurality of primary record types from components of the XML format that have multiple occurrences or have child components;

   c. defining a plurality of parent-child relationships between the primary record types from the relationships between the XML format components;

   d. defining a management record by choosing an XML format or by selecting a plurality of primary record types for inclusion in the management record;

   e. defining a dynamic document by choosing an XML format or by selecting a management record type, a plurality of its primary record types, and defining a hierarchical relationship for the selected primary record types;

   f. creating and updating primary record instances from XML documents;

   g. displaying data from the primary record instances using the dynamic document instances;

   h. creating an XML document definition for the dynamic document; and

   i. writing an XML document for the dymanic document instance.

2. The method of claim 1, wherein the step of defining a dynamic document includes any of the steps of:

   a. generating management record pointer families for each management record definition, each management record pointer family comprising a data structure defining a group of related primary record types within the management record, the management record

pointer families generated by performing the steps of:

    i. retrieving a management record;

    ii. retrieving a unique primary record type of the management record;

    iii. using the unique primary record type as the current primary record type;

    iv. creating a family pointer type for the current primary record type;

    v. retrieving a set of primary record definitions related to the current primary record type;

    vi. creating a child record type to the family pointer for each primary record type retrieved in substep 5) that has a one to many relationship with the current primary record type: and

    vii. for each primary record type retrieved in substep 5) that has a relationship with the current primary record type, repeating substeps 4-7 with the primary record type retrieved as the current primary record type;

  b. constructing the management record pointer instances;

  c. creating the dynamic document instances for the management record pointer instance.

3. The method of claim 1, wherein the step of defining a primary record further comprises the step of identifying a plurality of its fields as the unique identifying fields.

4. The method of claim 1, wherein the step of defining a management record further comprises the step of identifying one of the selected primary record types as the unique identifying primary record for the management record.

5. The method of claim 1, wherein the step of defining a dynamic document includes any of the steps of:

  a. defining a function that uses the data of the data source;

  b. defining a filter that operates on the data of the data source, the filter specifying a set of

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data selection criteria; and

    c. defining a sort that operates on the data of the data source.

6. The method of claim 1, wherein the step of creating and updating primary records from XML documents, further comprise the steps of:

    a. identify the primary record that corresponds to the XML format component;

    b. grouping the XML the component instances by their key fields into a temporary table; and

    c. inserting a primary record instance for each primary record type key field grouped by temporary table row.

7. The method of claim 1, further comprising the step of executing a function on the management records.

8. The method of claim 1, wherein the method executes user input sorts on the data in the dynamic documents before the step of displaying the data.

9. The method of claim 1, wherein the step of displaying data in the primary records using the dynamic document instance comprises the steps of:

    a. sending the data in an organized format to a screen forms display tool;

    b. placing values into proper fields; and

    c. using display rules entered by the user to control the appearance of a set of display panes, positioning the format of fields within the primary record type, and the type of maintenance that can be performed.

10. The method of claim 1, further comprising the step of executing a filter on the dynamic document, the filter execution corresponding to a data selection, the filter specifying a set of data selection criteria.

11. The method of claim 10, wherein the step of executing a filter on the dynamic documents further comprises the steps of:

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